

# THE SCIENCE NEWS-LETTER

*A Weekly Summary of Current Science*

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ISSUED BY  
**SCIENCE SERVICE**

B and 21st Streets  
WASHINGTON, D. C.

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SUBSCRIPTION: \$5 A YEAR, POSTPAID

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Vol. VIII, No. 264

Saturday, May 1, 1926

## PHYSICIAN OF FUTURE TO KEEP PATIENTS WELL

The chief role of the family physician of the future will be to keep his patients well rather than to treat them when they are sick. Preventive medicine and public health education were the text upon which Dr. Wendell C. Phillips, the newly installed president of the American Medical Association, based his address at the opening session of the recent annual meeting of that organization.

Complete eradication of measles, whooping cough, scarlet fever, possibly all the eruptive diseases, as well as all the insect borne plagues, is a potential development of the future pictured by Dr. Phillips.

The physician of the past, he said, was educated to treat disease. He knew little of preventive medicine, sanitation or hygiene, fields in which national, state and municipal departments have become powerful and controlling factors. The health measures of great industrial organizations, pay clinics and group practice have of late years brought great health benefit to hundreds of thousands.

The publicity work of all these agencies has gradually created a demand from the public for more information about personal health, which should be met, said Dr. Phillips, by a wide and comprehensive plan of personal and public health education of which the educated physician should be the source and head. Much pressure is being brought to bear at the present time to breakdown the reticent attitude of the medical profession toward the press. The House of Delegates of the American Medical Association is on record as favoring every measure of public health education and the better class of publications have given their cooperation by publishing only material of this character that has received medical approval.

Periodic physical examination of the healthy as well as the sick is a preventive measure strongly endorsed by the medical profession in the general program of health preservation.

"The family physician of the future," said Dr. Phillips, "must educate his patients and community in preventive medicine and be to some extent a health administrator. His chief role and his chief service will be to keep his patients well. Evidently, such service can be made possible only by maintaining intimate, clinical information, well recorded, regarding every man, woman and child who seeks his service. And every man, woman and child in every community should have his health recorded in the files of his family physician. Too many of our inhabitants worry through life with only fairly good health, and while they accomplish their daily duties, these fairly well persons may never know the exuberance and happiness of

perfect health. Hence, one goal of the future practitioner of medicine will be the attainment and maintenance of exuberant health, which is the inherent right of every person. A higher average of overflowing good health means a higher average of happiness, comfort, usefulness and economic value of the individual. The superman will never materialize without superhealth."

Medical education, Dr. Phillips went on to say, will place more emphasis on the human side and less on the mechanical and technical than at present. The curriculum of the undergraduate should be extended to include health conservation and the application of the principles of science through the personal relations of the physician and patient.

The address closed with a tribute to the importance of the general practitioner as a factor in the nation's health life and the significant statement that while the service rendered by a physician may not be considered in terms of finance it should be remembered that health conservation is of greater value than the sums paid out for helping the body repair the ravages of disease.

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#### METAL WELDING METHODS REVOLUTIONIZED BY NEW INVENTIONS

Methods of welding metals together will be revolutionized by two new inventions of the research laboratories of the General Electric Company, for after years of search it is now possible to weld so that the fused metal is as strong and as ductile as if it were never in two pieces. Previous methods, using an arc to furnish the intense necessary heat, resulted in the formation of compounds of the metal with oxygen and nitrogen so that the weld was not as strong as the rest of the piece.

As the nitrogen and oxygen which unite with the metal come from the air, in these new processes the air is excluded when the weld is being made by a bath of hydrogen, water gas, wood alcohol vapor, and others which do not easily form metallic compounds.

One of the methods was developed by Dr. Irving Langmuir, assistant director of the Schenectady laboratory, and makes use of what he calls flames of atomic hydrogen, based on a discovery of Dr. R. W. Wood, professor of experimental physics at Johns Hopkins University. Electric currents of twenty amperes and at voltages ranging from 300 to 800 were passed through two tungsten rods so as to form an arc similar to the arc between carbon rods in a street arc light.

By passing a stream of hydrogen gas into the arc from a small tube, an intensely hot flame is produced, because the molecules of hydrogen are broken up by the temperature of the arc into their constituent atoms. As the ordinary form of hydrogen is that of molecules, the atoms almost immediately recombine, but in doing so they liberate great amounts of heat, about half again as much as the oxy-hydrogen flame.

Iron rods an eighth of an inch in diameter melt within a few seconds when held about an inch above the arc, says Dr. Langmuir. Metals even harder to melt than iron, such as tungsten and molybdenum, one of the most refractory substances known, melt with ease. Quartz, however, melts with more difficulty than molybdenum, which Dr. Langmuir suggests as being due to the fact that the metals act as a catalyzer